

TECHNICAL DATA

Nacera® Pearl

Type/ Color: 1, 1.5, 2, 2.5, 3, 4, 4.5, 5

PHYSICAL PROPERTIES & TEST METHODS

Norm	Property	Requirement	Typical Values
	Optical Properties		translucent
13356	Density [acc.. ISO 18754 or EN 623-2]	$\geq 6,00$ [g/cm ³]	6,05
13356	Microstructure: Mean linear intercept [acc.. EN 623-3 or ASTM E112]	$\leq 0,4$ [μm]	0,33
6872	4 Point Bending Strength	≥ 800 [MPa]	1200
13356	Cycl. Fatigue	≥ 320 [MPa]	Successful, no failure
13356	Radioactivity	≤ 200 [Bq/kg]	15
6872	CTE	Determination	$10 \cdot 10^{-6} \text{K}^{-1}$
6872	Chem. Solubility	≤ 2.000 [$\mu\text{g}/\text{cm}^2$]	12
13356	Young's modulus	≥ 200 [GPa]	205
13356	Hardness	$\geq 11,8$ [GPa]	13

CHEMICAL COMPOSITION

Norm	Property	Elements - Oxides	Requirement	Typical Values
13356	Composition in mass %	ZrO ₂ + HfO ₂ + Y ₂ O ₃	$\geq 99,0$	99,90
13356		Y ₂ O ₃	$> 4,5$ bis $\leq 6,0$	5,50
13356		HfO ₂	≤ 5	1,90
13356		Al ₂ O ₃	$\leq 0,5$	0,002
13356		other oxides	$\leq 0,5$	$\leq 0,5$

Notified Body: ecm GmbH **CE 0481**

These properties were measured on test samples. The values are typical material properties and may vary according to product configuration, geometry and manufacturing process.